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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/777,014	02/11/2004	James A. Laugharn JR.	CVRS-P04-001	2221
7590	09/19/2005		EXAMINER	
Patent Group Ropes & Gray LLP One International Place Boston, MA 02110			SOOHOO, TONY GLEN	
			ART UNIT	PAPER NUMBER
			1723	

DATE MAILED: 09/19/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/777,014	LAUGHARN ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Tony G. Soohoo	1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 27 June 2005.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 47-140 is/are pending in the application.

4a) Of the above claim(s) 63-65 and 80-140 is/are withdrawn from consideration.

5)  Claim(s) \_\_\_\_\_ is/are allowed.

6)  Claim(s) 47-62 and 66-79 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on \_\_\_\_\_ is/are: a)  accepted or b)  objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 3/05/02/04

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Corresponding applicant's remarks with the examiner as recorded in the REMARKS of the response filed 6-27.2005, Claims 63-65, and 80-140 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected invention identified as Group I, and species to a mixing system, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 6-27-2005.
2. The pending claims remaining for consideration and examination upon the merits are claims 47-62, 66-71, and 72-79.

### ***Specification***

Applicant is reminded to state claims to priority in the first line of the specification, and to update the status of any priority parent applications.

### ***Claim interpretation***

Claims 66-79 attempt to claim the material which is used in the apparatus. Thus the claims attempt to claim the material worked upon by the device.

3. Note: The MPEP states  
MPEP 2115  
Material or Article Worked Upon by Apparatus  
MATERIAL OR ARTICLE WORKED UPON DOES NOT LIMIT APPARATUS CLAIMS

"Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim." *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, "[i]nclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims." *In re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963)). In *In re Young*, a claim to a machine for making concrete beams included a limitation to the concrete reinforced members made by the machine as well as the structural elements of the machine itself. The court held that the inclusion of the article formed within the body of the claim did not, without more, make the claim patentable. In *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967), an apparatus claim recited "[a] taping machine comprising a supporting structure, a brush attached to said supporting structure, said brush being formed with projecting bristles

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which terminate in free ends to collectively define a surface to which adhesive tape will detachably adhere, and means for providing relative motion between said brush and said supporting structure while said adhesive tape is adhered to said surface." An obviousness rejection was made over a reference to Kienzle which taught a machine for perforating sheets. The court upheld the rejection stating that "the references in claim 1 to adhesive tape handling do not expressly or impliedly require any particular structure in addition to that of Kienzle." The perforating device had the structure of the taping device as claimed, the difference was in the use of the device, and "the manner or method in which such machine is to be utilized is not germane to the issue of patentability of the machine itself." Note that this line of cases is limited to claims directed to machinery which works upon an article or material in its intended use. It does not apply to product claims or kit claims (i.e., claims directed to a plurality of articles grouped together as a kit).

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 47-52, 62, 66-79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al 5484573 in view of Murry 3614069 (both cited on PTO 1449).

Berger et al (cited on PTO 1449) teaches reactor apparatus with a vessel 1 with inlet 11, 12, and outlet 8, and plural ultrasonic transducers 15 placed about the vessel, and having a controller 16.

The Berger et al (cited on PTO 1449) reference discloses all of the recited subject matter as defined within the scope of the claims with the exception of having the ultrasonic transducer and controller providing a field frequency of about 100 kHz to about 100 MHz.

The reference to Murry 3614069 teaches that a controller 17, 21 may be provided to control corresponding ultrasonic traducers 14, 16 to the frequency of low frequency ultrasonic 10 kilohertz, column 4, line 29 through a high frequency

application of up to 10 to 400 megahertz, column 4, line 41, to control the optimization of the production effect of the cavitation, mixing and emulsification of the corresponding fluid, see column 4, lines 32-48.

In view of the teaching of Murry, it is deemed that it would have been obvious to one of ordinary skill in the art to modify the controller and transducer of the Berger reference to provide ultrasonic transducers and controller to produce ultrasonic frequencies of 10 kilohertz through up to 10 to 400 megahertz, so that production effect of the cavitation, mixing and emulsification of the corresponding fluid is optimized. With regards claims 48-49, to the size of the focused field provided by the ultrasonic transducers focus zone being smaller (claim 48) or larger (claim 49) then the reaction vessel, it is old and well known place field transducers in a focus arrangement and that the focus is a direct variable to the location of the amount of energy provided by the focused field. Accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to move the placement of the ultrasonic transducers to an appropriate arrangement to provide an optimal focus size in the provision of the ultrasonic energy to the vessel for efficient mixing, or processing of the fluid, since it has been held that rearranging parts of an invention involves only routine skill in the art. In re Japikse, 86 USPQ 70.

With regards to claims 51-52, note the processor 16 of Berger et al which is deemed to be able to be controlled in the manner recited in the claims.

With regards to claims 66-79, the particular material to be used in the device is does not provide any patentable distinction to the elements claimed in the apparatus.

6. Claims 50, and 54-61 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berger et al 5484573 in view of Murry 3614069 as applied to claim 47 above, and further in view of Peltzer 5993671 (newly cited).

The Berger reference as modified by Murry discloses all of the recited subject matter as defined within the scope of the claims with the exception of (Claim 50) a controller to control flow of sample into and out of the flow of vessel ; and alternately with the exception of (Claim 54-61) a respective controller and sensor having feed back on the state of the treatment.

The reference to Peltzer 5993671 teaches a mixing system whereby a controller is provided to control both the feed and output flows by the use of valves 20, 22, 24. Also the reference teaches the use of sensors 60, 62, 64, 80, 82, 84 which provides a feedback to the state of the treatment in the mix chamber 12.

In view of the teaching of Peltzer 5993671, it is deemed that it would have been obvious to one of ordinary skill in the art to provide for the device of Berger with a controller with valves connected at the input and output so as to provide a more precise control of the mixture ratio to be processed, and further provide a sensor in order to monitor the state of the treatment of the mixture in the mixing chamber. With regards to particular type of sensor to be used, it is old an well known in the art of sensor devices that various sensors may be provided to monitor a desired characteristic, accordingly, it is deemed that it would have been obvious to one of ordinary skill in the art to substitute

and provide any commonly known sensor in correspondence to the desired characteristic which is to be monitored.

***Conclusion***

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Peltzer 6224778, Schram 4879011 teaches the use of ranges of 100 KHz to 50 MHz, col. 5 line 39, Pourahmadi et al 6440725, Kuklinski 6039309, Oeftering 6003388, Peterson et al 4983189, and Lee 6086821.
8. The Wohlstadter et al 6413783 reference cited on PTO 1449 teaches the use of frequency ranges from 100 KHz to 10 Mhz.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tony G. Soohoo whose telephone number is (571) 272 1147. The examiner can normally be reached on 7-5PM,Tue-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on 571-272-1151. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Tony G. Soohoo  
Primary Examiner  
Art Unit 1723

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